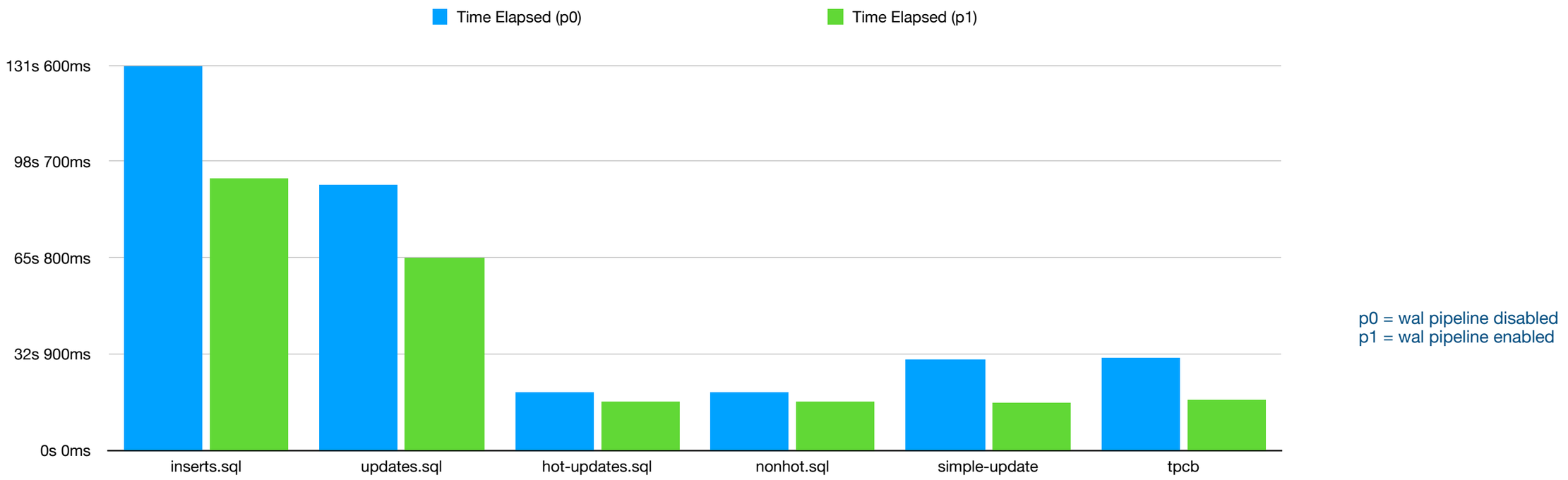

Recoveries (Default)

	Time Elapsed (p0)	Time Elapsed (p1)	% perf	Workload	Base DB size	Cpu Profile (p0)	Cpu Profile (p1)
inserts.sql	131s 510ms	92s 650ms	29.55%	pgbench -n -c 20 -j 20 -T 300 -f sql/workloads/inserts.sql	480 MB	rec-p0-inserts-def.svg	rec-p1-inserts-def.svg
updates.sql	90s 530ms	65s 740ms	27.38%	pgbench -n -c 20 -j 20 -T 300 -f sql/workloads/updates.sql	480 MB	rec-p0-updates-def.svg	rec-p1-updates-def.svg
hot-updates.sql	19s 510ms	16s 420ms	15.84%	pgbench -n -c 20 -j 20 -T 300 -f sql/workloads/hot-updates.sql	480 MB	rec-p0-hot-updates-def.svg	rec-p1-hot-updates-def-16.51.svg
nonhot.sql	19s 650ms	16s 460ms	16.23%	pgbench -n -c 20 -j 20 -T 300 -f sql/workloads/nonhot.sql	480 MB	rec-p0-nonhot-def.svg	rec-p1-nonhot-def.svg
simple-update	30s 770ms	16s 220ms	47.29%	pgbench -n -c 20 -j 20 -T 300 -b simple-update	4913 MB	rec-p0-simple-update-def.svg	rec-p1-simple-update-def.svg
tpcb	31s 580ms	17s 270ms	45.31%	pgbench -n -c 20 -j 20 -T 300 -b tpcb-like postgres	4913 MB	rec-p0-tpcb-like-def.svg	rec-p1-tpcb-like-def.svg

Recoveries
(shared_buffers=8GB)

	Time Elapsed (p0)	Time Elapsed (p1)	% perf	Workload	Base DB size	Cpu Profile (p0)	Cpu Profile (p1)
inserts.sql	122s 650ms	93s 40ms	24.14%	pgbench -n -c 20 -j 20 -T 300 -f sql/workloads/inserts.sql	480 MB	rec-p0-inserts-sbuff.svg	rec-p1-inserts-sbuff.svg
updates.sql	65s 680ms	44s 900ms	31.64%	pgbench -n -c 20 -j 20 -T 300 -f sql/workloads/updates.sql	480 MB	rec-p0-updates-sbuff.svg	rec-p1-updates-sbuff.svg
hot-updates.sql	8s 190ms	5s 580ms	31.87%	pgbench -n -c 20 -j 20 -T 300 -f sql/workloads/hot-updates.sql	480 MB	rec-p0-hot-updates-sbuff.svg	rec-p1-hot-updates-def-16.51.svg
nonhot.sql	7s 420ms	5s 490ms	26.01%	pgbench -n -c 20 -j 20 -T 300 -f sql/workloads/nonhot.sql	480 MB	rec-p0-nonhot-sbuff.svg	rec-p1-nonhot-sbuff.svg
simple-update	24s 920ms	17s 950ms	27.97%	pgbench -n -c 20 -j 20 -T 300 -b simple-update	4913 MB	rec-p0-simple-update-sbuff.svg	rec-p1-simple-update-sbuff.svg
tpcb	32s 260ms	19s 220ms	40.42%	pgbench -n -c 20 -j 20 -T 300 -b tpcb-like postgres	4913 MB	rec-p0-tpcb-like-sbuff.svg	rec-p1-tpcb-like-sbuff.svg

Recoveries
(shared_buffers=8GB, maintenance_work_mem=1GB, work_mem=1GB)

	Time Elapsed (p0)	Time Elapsed (p1)	% perf	Workload	Base DB size	Cpu Profile (p0)	Cpu Profile (p1)
inserts.sql	124s 620ms	91s 680ms	26.43%	pgbench -n -c 20 -j 20 -T 300 -f sql/workloads/inserts.sql	480 MB	rec-p0-inserts-sbuff-m.svg	rec-p1-inserts-sbuff-m.svg
updates.sql	69s 580ms	47s 690ms	31.46%	pgbench -n -c 20 -j 20 -T 300 -f sql/workloads/updates.sql	480 MB	rec-p0-updates-sbuff-m.svg	rec-p1-updates-sbuff-m.svg
hot-updates.sql	7s 600ms	5s 600ms	26.32%	pgbench -n -c 20 -j 20 -T 300 -f sql/workloads/hot-updates.sql	480 MB	rec-p0-hot-updates-sbuff-m.svg	rec-p1-hot-updates-def-16.51.svg
nonhot.sql	7s 780ms	5s 460ms	29.82%	pgbench -n -c 20 -j 20 -T 300 -f sql/workloads/nonhot.sql	480 MB	rec-p0-nonhot-sbuff-m.svg	rec-p1-nonhot-sbuff-m.svg
simple-update	23s 570ms	18s 230ms	22.66%	pgbench -n -c 20 -j 20 -T 300 -b simple-update	4913 MB	rec-p0-simple-update-sbuff-m.svg	rec-p1-simple-update-sbuff-m.svg
tpcb	25s 480ms	18s 890ms	25.86%	pgbench -n -c 20 -j 20 -T 300 -b tpcb-like postgres	4913 MB	rec-p0-tpcb-like-sbuff-m.svg	rec-p1-tpcb-like-sbuff-m.svg

Machine Specs:

CPU: Common KVM (4) @ 2.593GHz

GPU: 00:02.0 Vendor 1234 Device 1111

Memory: 15803MiB

custom workload files

inserts.sql	updates.sql	nonhot.sql	hot-updates.sql
INSERT INTO waltest (data) SELECT md5(random()::text) FROM generate_series(1,100);	\set id random(1, 5000000) BEGIN; -- Update ~100 rows near the chosen ID UPDATE waltest SET data = md5(random()::text), updated_at = now() WHERE id BETWEEN :id AND :id + 100; -- Occasionally insert a new row \if random(1,100) < 5 INSERT INTO waltest (data) VALUES (md5(random()::text)); \endif -- Occasionally delete a random	\set id random(1, 5000000) BEGIN; -- Update the indexed column (PRIMARY KEY) UPDATE waltest SET id = id WHERE id BETWEEN :id AND :id + 50; COMMIT;	BEGIN; UPDATE waltest SET data = md5(random()::text), -- same fixed size -> always HOT updated_at = clock_timestamp() -- small fixed-size column WHERE id = :id; COMMIT;

DB init for base backup

	Time Elapsed (off)
pgbench workload	pgbench -i -s 300 -F 90 postgres
custom workloads	CREATE TABLE waltest (id SERIAL PRIMARY KEY, data TEXT, updated_at TIMESTAMPTZ DEFAULT now()); INSERT INTO waltest (data) SELECT md5(i::text) FROM generate_series(1, 5000000) i;